

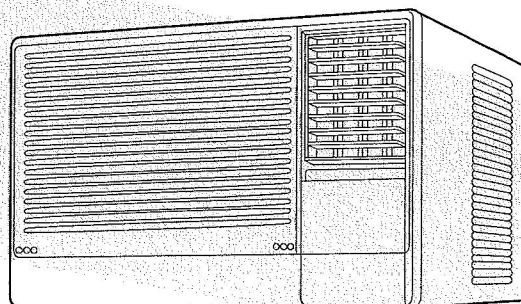
TOSHIBA

FILE NO. A00-9605

SERVICE MANUAL

ROOM AIR-CONDITIONER WINDOW TYPE

RAC-07E-E ***RAC-09E-E***



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1. SPECIFICATIONS

Item		Model	RAC-07E-E	RAC-09E-E
Capacity		kW	1.93/1.95/1.97	2.48/2.50/2.52
Power source		Phase	Single	Single
		V	220/230/240	220/230/240
		Hz	50	50
Power consumption		kW	0.70/0.72/0.73	0.93/0.95/0.97
Power factor		%	96/95/95	100/98/96
Running current		A	3.3/3.3/3.2	4.2/4.2/4.2
Starting current		A	17	20
Moisture removal		lit/h	0.9	1.2
Noise	Indoor	dB	49/44	49/44
	Outdoor	dB	54/50	54/50
Compressor output		W	630	750
Fan motor output		W	38	38
Refrigerant	Name of refrigerant		R-22	R-22
	Charge volume	kg (lbs)	0.43	0.43 (0.948)
Air volume	High Fan	m ³ /h (CFM)	400	400 (235)
	Low Fan	m ³ /h (CFM)	300	300 (177)
Refrigerant control			Capillary tube	
Safety device			Overcurrent relay for protection of compressor motor and fan motor	
Control device			Timer, Thermostat, Seesaw Switch	
Ventilation			Yes	
Auto louver			Yes	
Dimensions	Height	mm (in.)	340 (13.4)	
	Width	mm (in.)	520 (20.5)	
	Depth	mm (in.)	525 (20.7)	
Net weight		kg (lbs)	32 (71)	
Usable outdoor temperature range		°C (°F)	21 (70) - 43 (109)	

Specifications are subject to change without notice.

Note :

Capacity is based on the following temperature conditions.

		COOLING
Indoor unit inlet air temperature	(DB)	27°C (80°F)
	(WB)	19°C (66.2°F)
Outdoor unit inlet air temperature	(DB)	35°C (95°F)
	(WB)	24°C (75°F)

2. CONSTRUCTION VIEWS

RAC-07E-E
RAC-09E-E

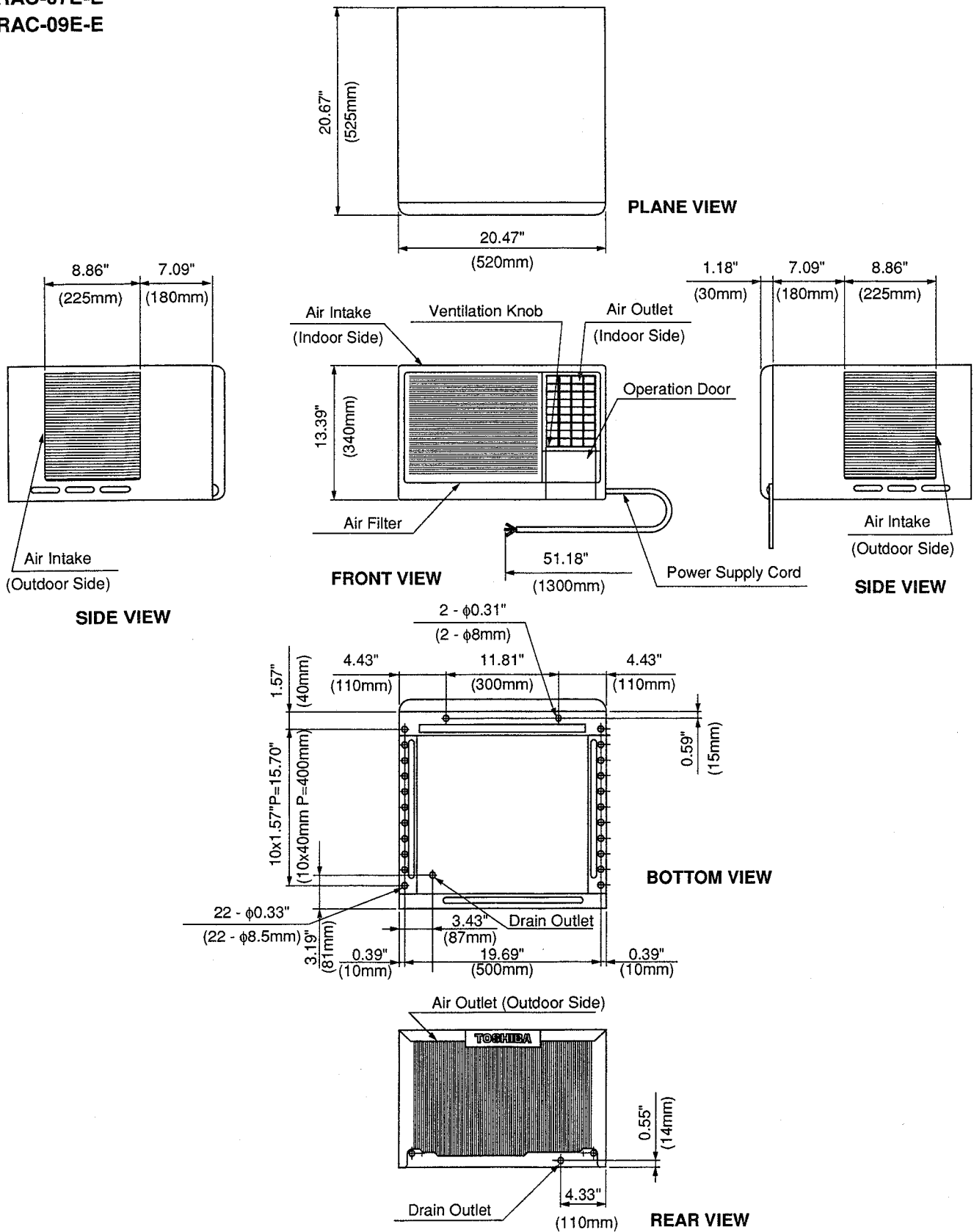


Fig. 2-1

3. SPECIFICATIONS OF ELECTRICAL PARTS

3-1. RAC-07E-E

No.	Parts name		Type	Specifications			
1	Compressor		PH88T1-4B	Output (Rated) 630W, 2 pole, 1 phase, 220/240V, 50 Hz			
				Winding resistance (Ω) (at 20°C)	Red-Black	White-Black	
					4.6	9.0	
2	Fan motor		MMF-230-38D	Output (Rated) 38W, 6 pole, 1 phase, 220/240V, 50 Hz			
				Winding resistance (Ω) (at 20°C)	Red-Black	White-Black	Black-Orange
					204	248	104
3	Auto louver motor		MT8-3	Output (Rated) 3W, 8 pole, Single phase, 220-240V, 50/60 Hz			
				Winding resistance (kΩ) (at 20°C) 12.0			
4	Overload relay		J-MRA99268-9201	Ultimate tripping, 5A (Terminal 1 - 3) at 80°C Tripping temp., 145 ± 5°C Resetting temp., 69 ± 5°C			
5	Room thermostat		3ART17B52	Differential 2°C Rated current 20A (at 240V) Closing current 80A (at 240V)			
6	Timer		M1872	14 hours OFF Timer Rated current, 5A between terminal 1 - 2, 2 - 3 at 220 ~ 240V Closing current, 5A between terminal 1 - 2, 2 - 3 at 200 ~ 240V			
7	Running capacitor	for fan motor	EEP2H185HQA113	500WV, 1.8 μF			
		for compressor	SK-40CMP15U1	400WV, 15 μF			
8	Power relay		VC20FA	Coil rating 50 Hz 220-240V Contact composition 3P			
9	Seesaw switch		3019B	Rated AC current, closing and cut-off current 250V, 3A			

3-2. RAC-09E-E

No.	Parts name		Type	Specifications			
1	Compressor		PH112T1-4D	Output (Rated) 750W, 2 pole, 1 phase, 220/240V, 50 Hz			
				Winding resistance (Ω) (at 20°C)	Red-Black	White-Black	
					2.76	5.93	
2	Fan motor		MMF-230-38D	Output (Rated) 38W, 6 pole, 1 phase, 220/240V, 50 Hz			
				Winding resistance (Ω) (at 20°C)	Red-Black	White-Black	Black-Orange
					204	248	104
3	Auto louver motor		MT8-3	Output (Rated) 3W, 8 pole, Single phase, 220-240V, 50/60 Hz			
				Winding resistance (kΩ) (at 20°C) 12.0			
4	Overload relay		J-MRA99269-9200	Ultimate tripping, 6.8A (Terminal 1 - 2) at 90°C Tripping temp., 135 ± 5°C Resetting temp., 69 ± 11°C			
5	Room thermostat		3ART17B52	Differential 2°C Rated current 20A (at 240V) Closing current 80A (at 240V)			
6	Timer		M1872	14 hours OFF Timer Rated current, 5A between terminal 1 - 2, 2 - 3 at 220 ~ 240V Closing current, 5A between terminal 1 - 2, 2 - 3 at 200 ~ 240V			
7	Running capacitor	for fan motor	EEP2H185HQA113	500WV, 1.8 μF			
		for com-pressor	SK-40CMP25U1	400WV, 25 μF			
8	Power relay		VC20FA	Coil rating 50 Hz 220-240V Contact composition 3P			
9	Seesaw switch		3019B	Rated AC current, closing and cut-off current 250V, 3A			

4. WIRING DIAGRAM

RAC-07E-E

RAC-09E-E

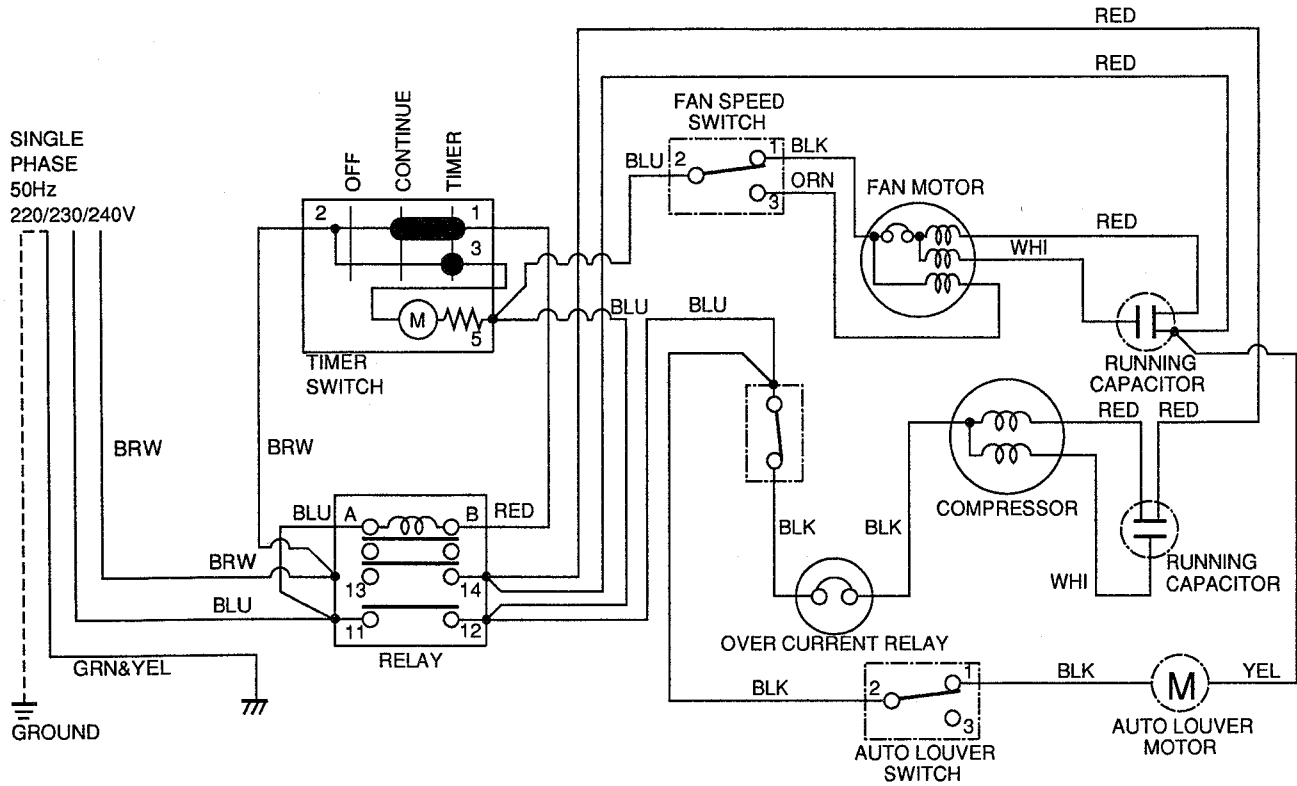


Fig. 4-1

5. REFRIGERATING CYCLE DIAGRAM

RAC-07E-E

RAC-09E-E

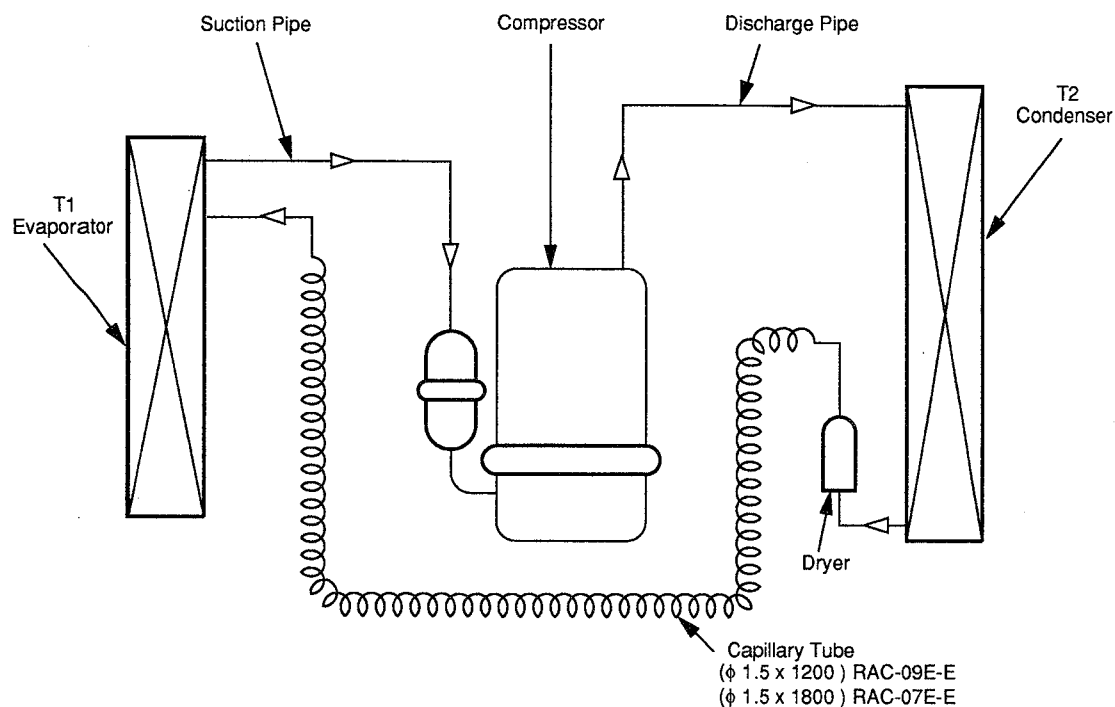


Fig. 5-1

RAC-07E-E

Conditions		Surface temp. of heat exchanger interchanging pipe (°C)		Ambient temp. conditions DB/WB (°C)	
		T ₁	T ₂	Indoor	Outdoor
Cooling	Standard	8	51	27/19	35/24
	High temperature	13	60	32/23	43/26
	Low temperature	1	36	21/15	21/15

RAC-09E-E

Conditions		Surface temp. of heat exchanger interchanging pipe (°C)		Ambient temp. conditions DB/WB (°C)	
		T ₁	T ₂	Indoor	Outdoor
Cooling	Standard	8	52	27/19	35/24
	High temperature	13	62	32/23	43/26
	Low temperature	1	37	21/15	21/15

Note:

Measure the heat exchanger temperature at the center of U-bend. (By means of thermistor thermometer.)

6. PERFORMANCE CHARACTER

6-1. RAC-07E-E

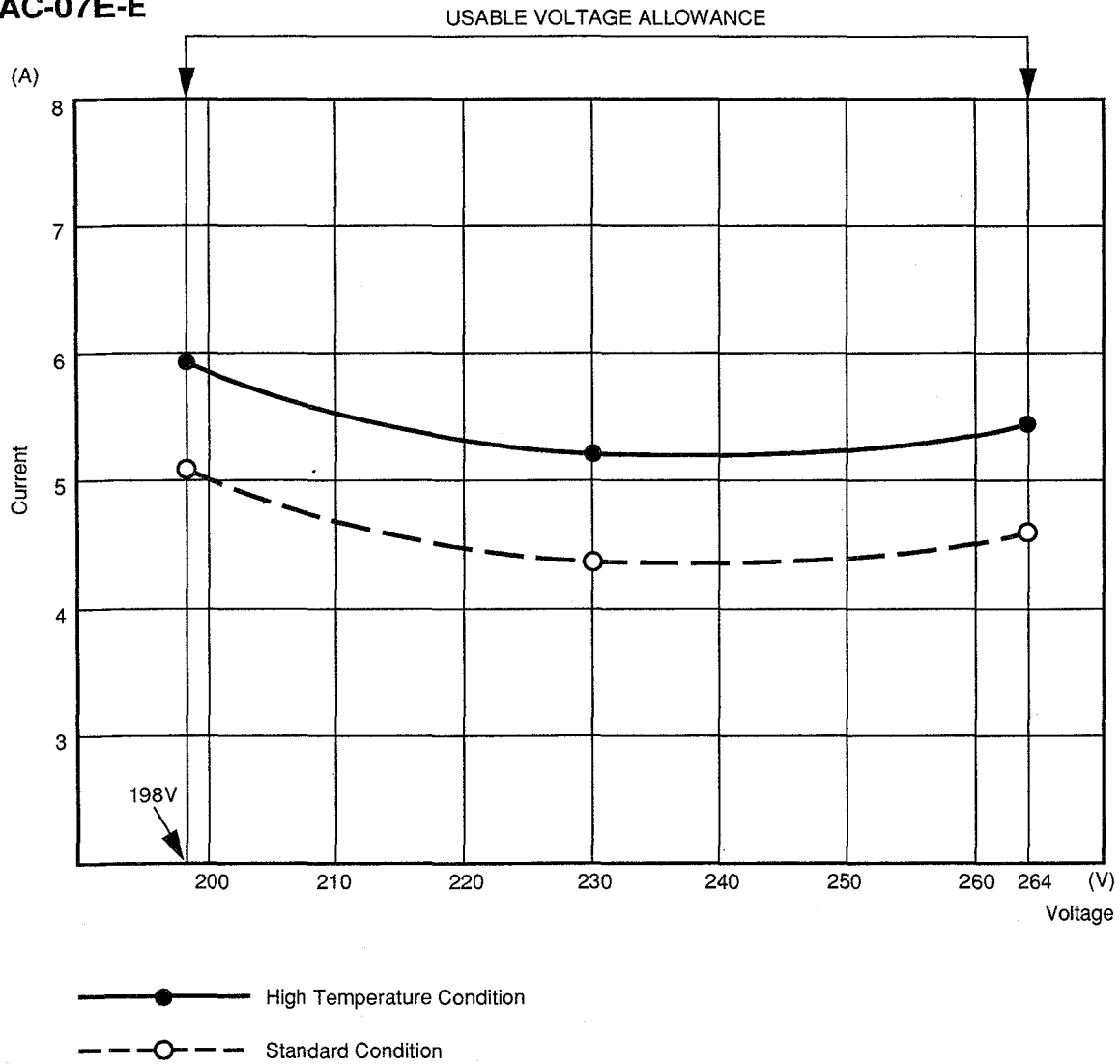


Fig. 6-1

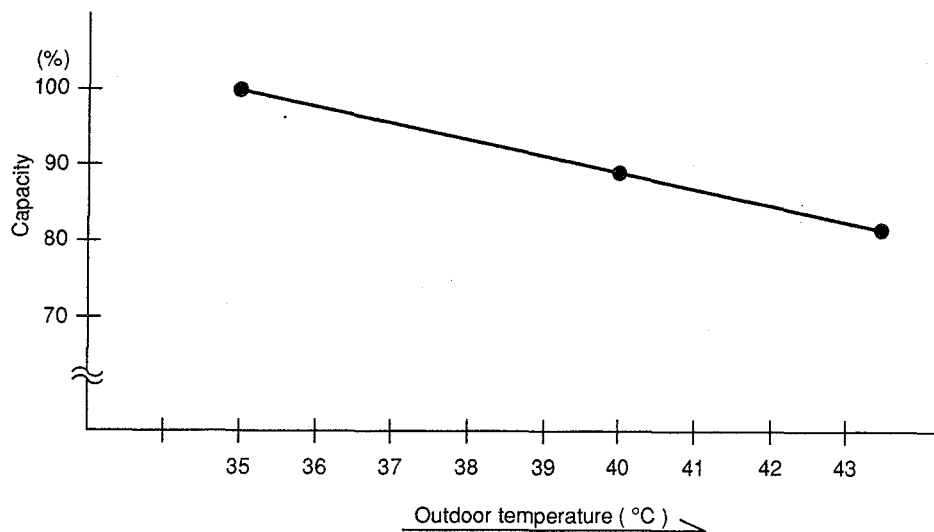


Fig. 6-2

6-2. RAC-09E-E

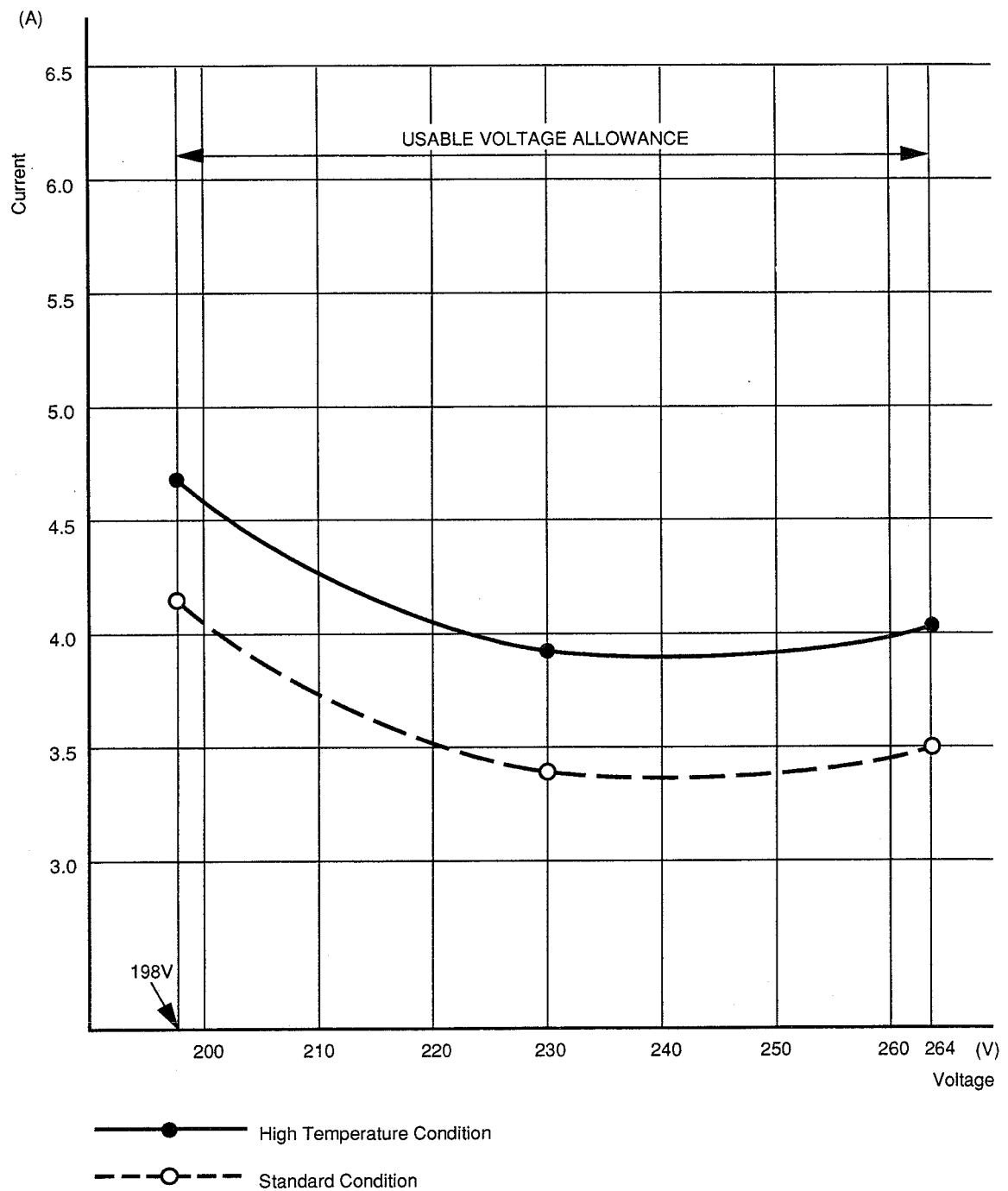


Fig. 6-3

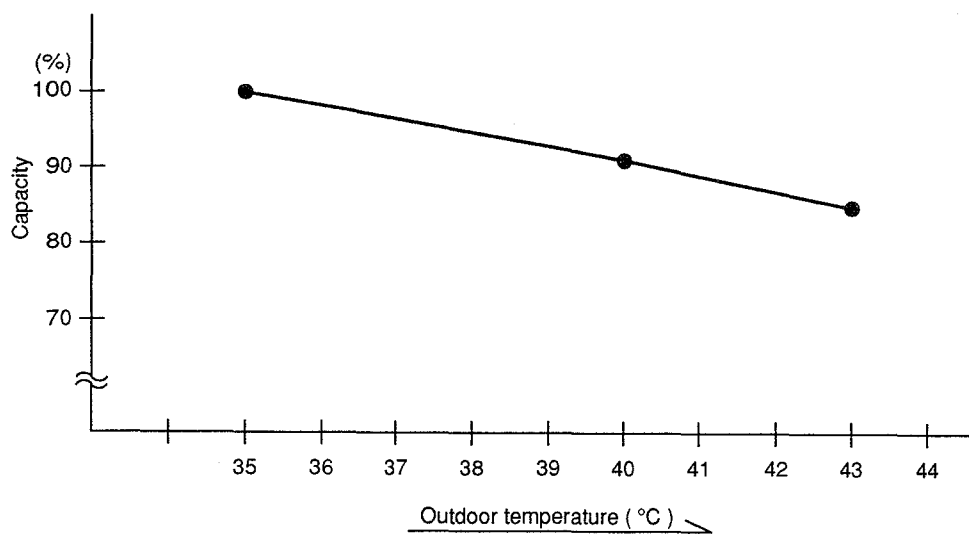
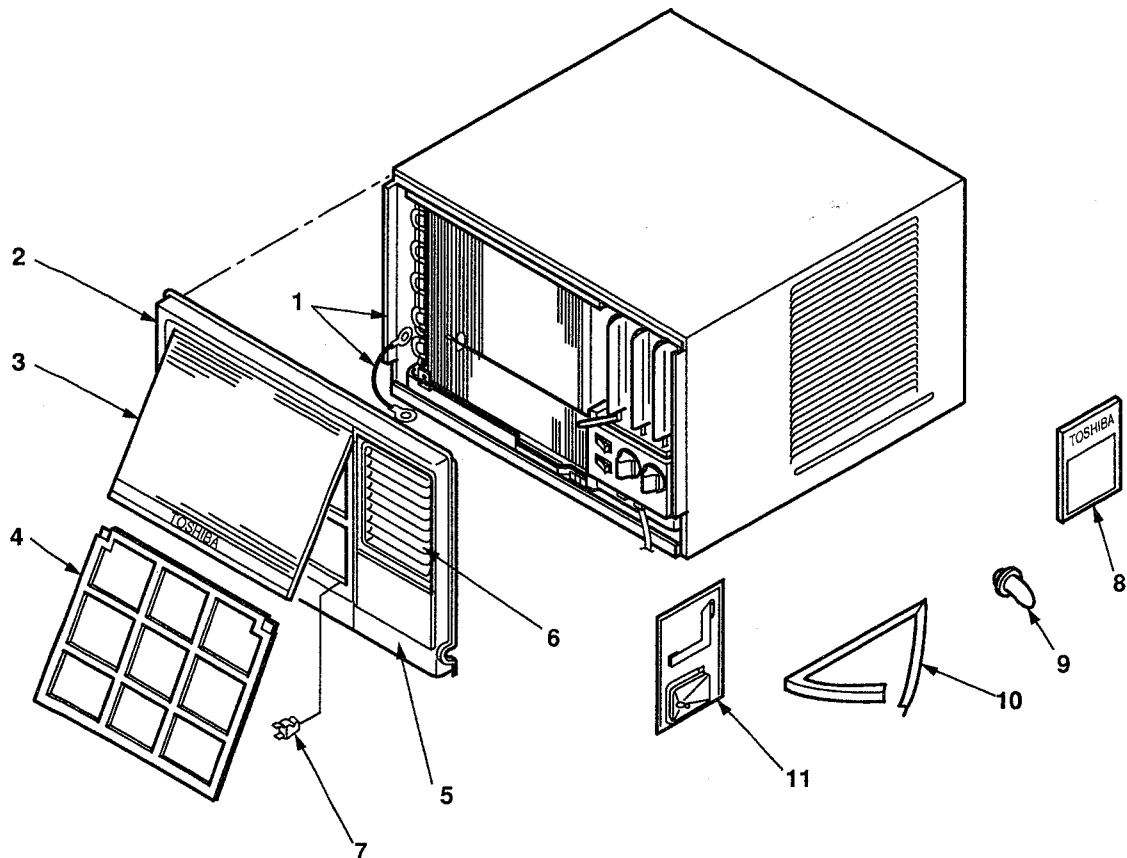


Fig. 6-4

7. EXPLODED VIEWS AND PARTS LIST

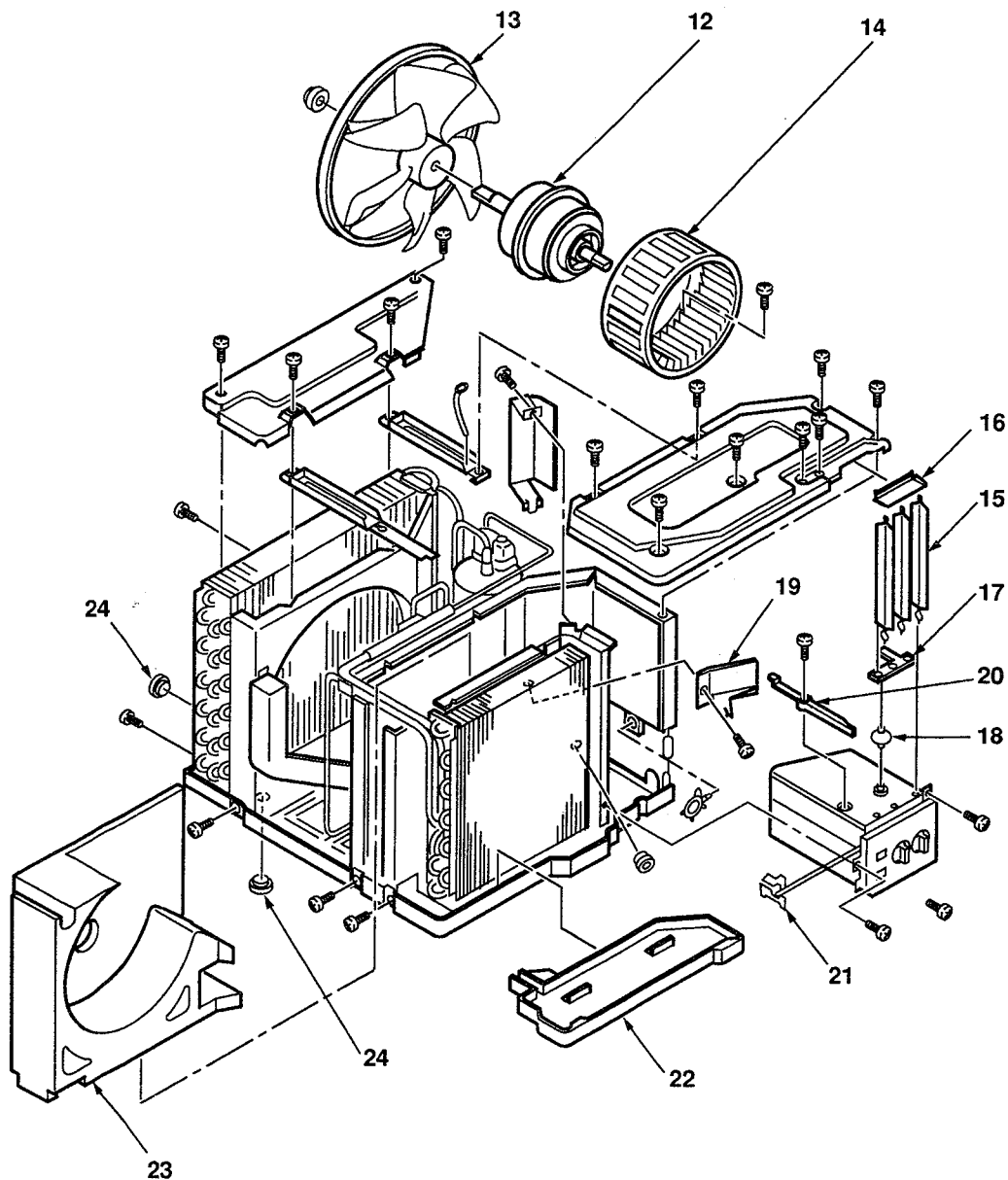
RAC-07E-E

RAC-09E-E



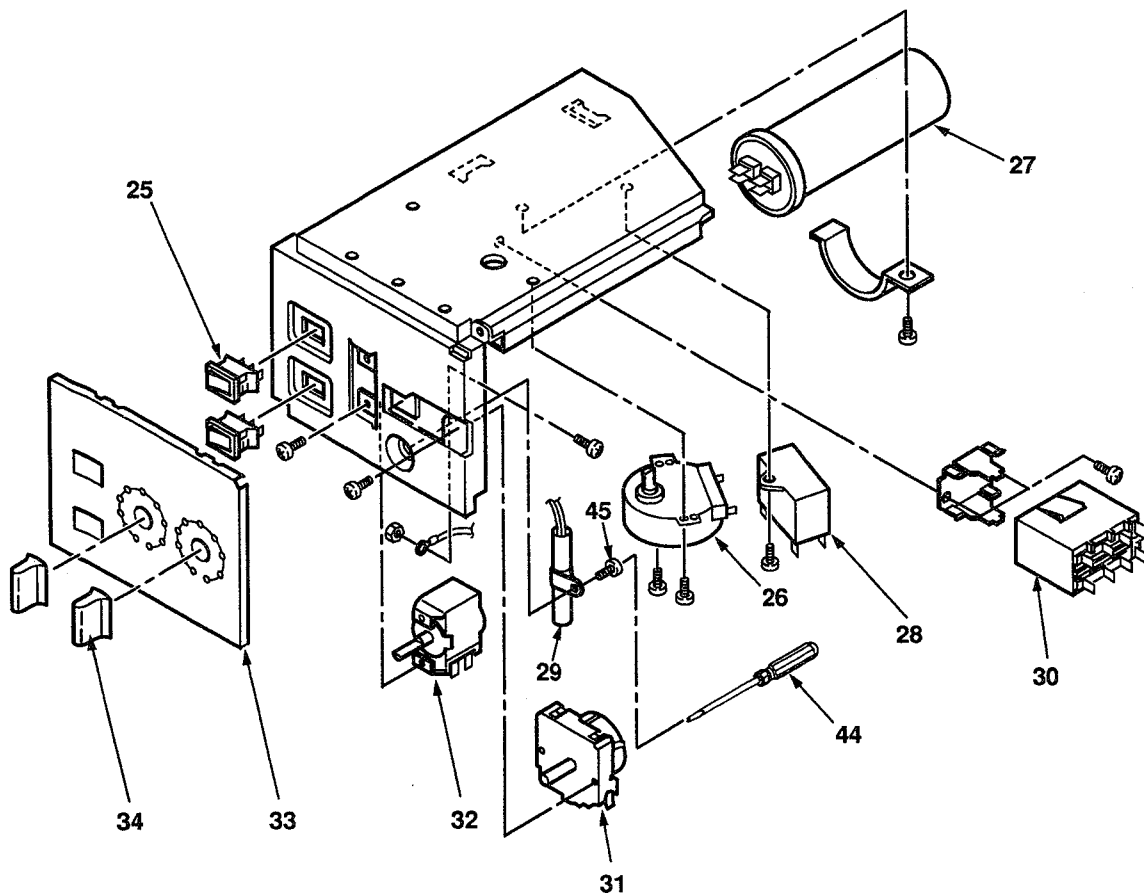
Location No.	Part No.	Description
1	43005264	Cabinet
2	43005173	Panel, Front
3	43009550	Air Inlet Grille
4	43080348	Air Filter
5	43019873	Door, Control Panel
6	43009547	Grille, Horizontal

Location No.	Part No.	Description
7	43007842	Latch
8	43088618	Owner's Manual
9	43029095	Drain Elbow
10	43019655	Gasket
11	43072353	Kit, Drain Pan



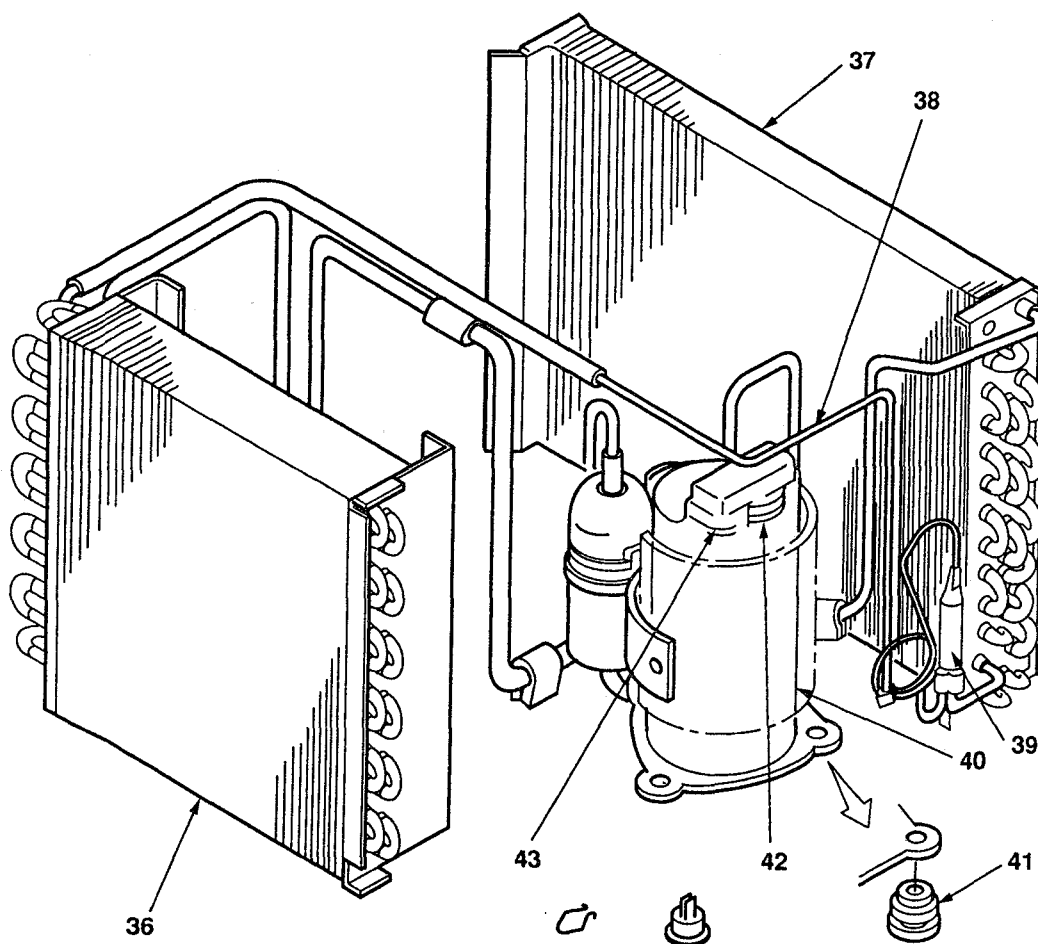
Location No.	Part No.	Description
12	43021936	Motor, AC, 220/240V, 50 Hz, Fan
13	43020257	Fan, Propeller
14	43020258	Fan, Multi-Blade
15	43009413	Grille
16	43029091	Connection Rod, A
17	43029092	Connection Rod, B

Location No.	Part No.	Description
18	43009277	Rotary Plate
19	43007381	Door, Ventilation
20	43007018	Lever, Ventilation
21	43049630	Holder, Thermo
22	43072336	Drain Pan
23	43022400	Fan Case
24	43079200	Cap, Drain



Location No.	Part No.	Description
25	43051292	Switch, Seesaw
26	43021661	Motor, AC, 230V, 50/60 Hz, Auto Louver
27	43055470	Capacitor, Plastic Film, 15MFD, 400V (RAC-07E-E)
27	43055483	Capacitor, Plastic Film, 25MFD, 400V (RAC-09E-E)
28	43055441	Capacitor, Plastic Film
29	43006227	Power Cord

Location No.	Part No.	Description
30	43154139	Magnetic Switch
31	43051248	Switch, Timer
32	43050255	Thermostat
33	43006222	Panel, Switch (RAC-07E-E)
33	43006223	Panel, Switch (RAC-09E-E)
34	43067091	Knob
44	43082263	Screw-Driver
45	43097199	Tamper-Proof-Screw



Location No.	Part No.	Description
36	43044590	Evaporator (RAC-07E-E)
36	43044556	Evaporator (RAC-09E-E)
37	43043539	Condenser (RAC-07E-E)
37	43043538	Condenser (RAC-09E-E)
38	43047491	Capillary Tube, 1.5DIA
39	43045056	Dryer
40	43041256	Compressor, AC, 220/240V, 50Hz, PH88T1-4B (RAC-07E-E)

Location No.	Part No.	Description
40	43041574	Compressor, AC, 220/240V, 50Hz, PH112T1-4D (RAC-09E-E)
41	43049643	Rubber Cushion
42	43054402	Relay, Overload (RAC-07E-E)
42	43054403	Relay, Overload (RAC-09E-E)
43	43069988	Holder, OL-Relay